Figure 1: General description of the polyphage principle

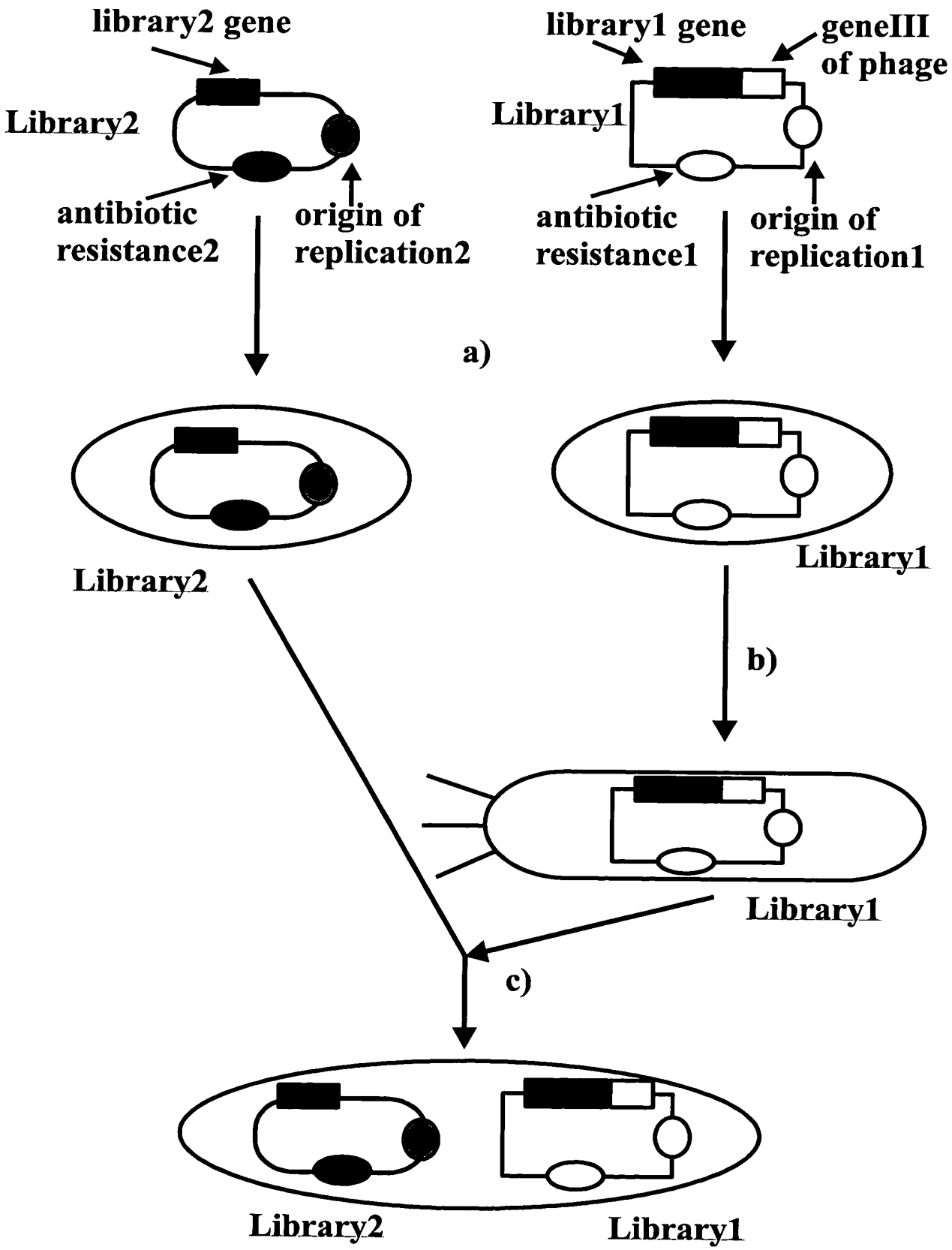


Figure 1: General description of the polyphage principle (cont.)

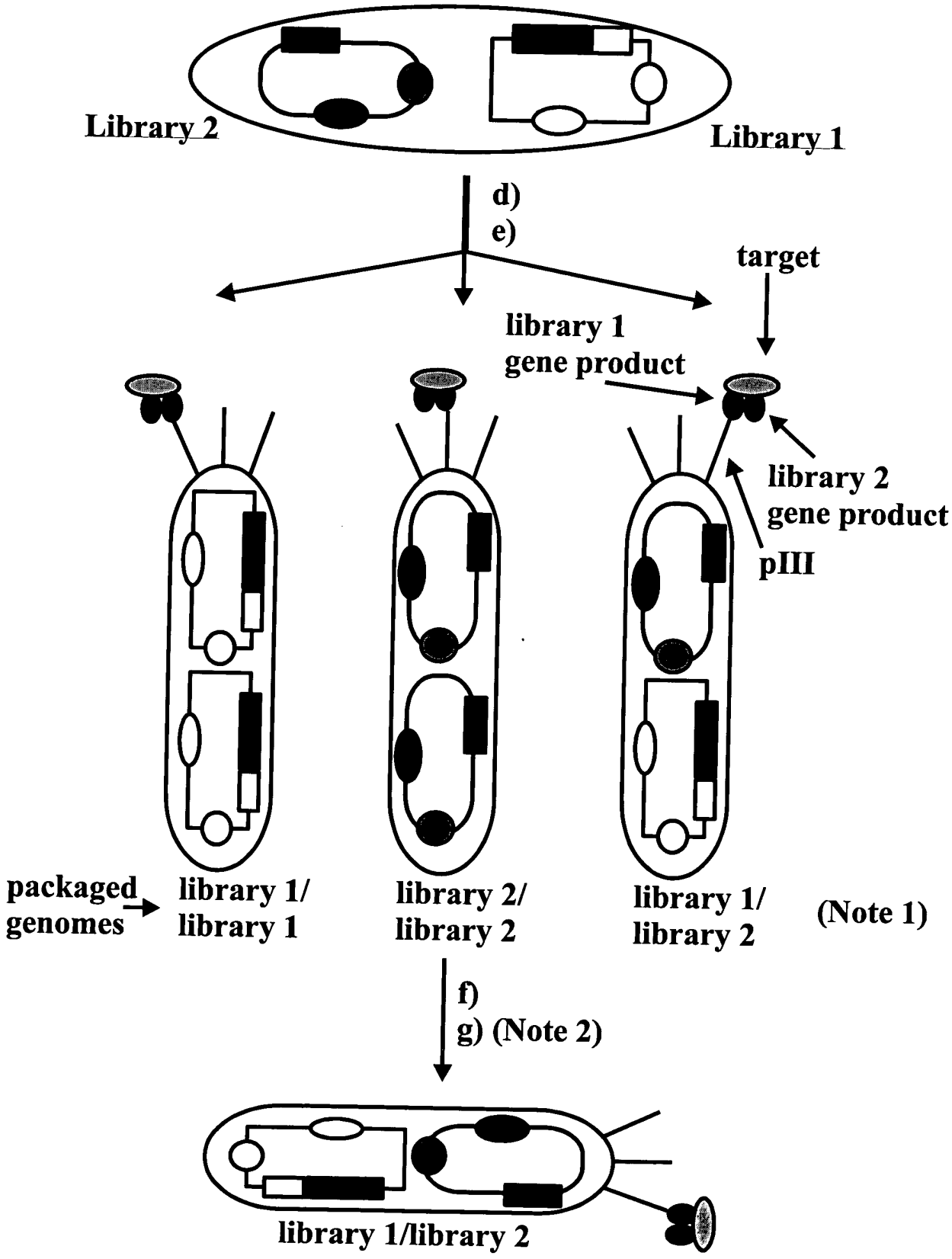
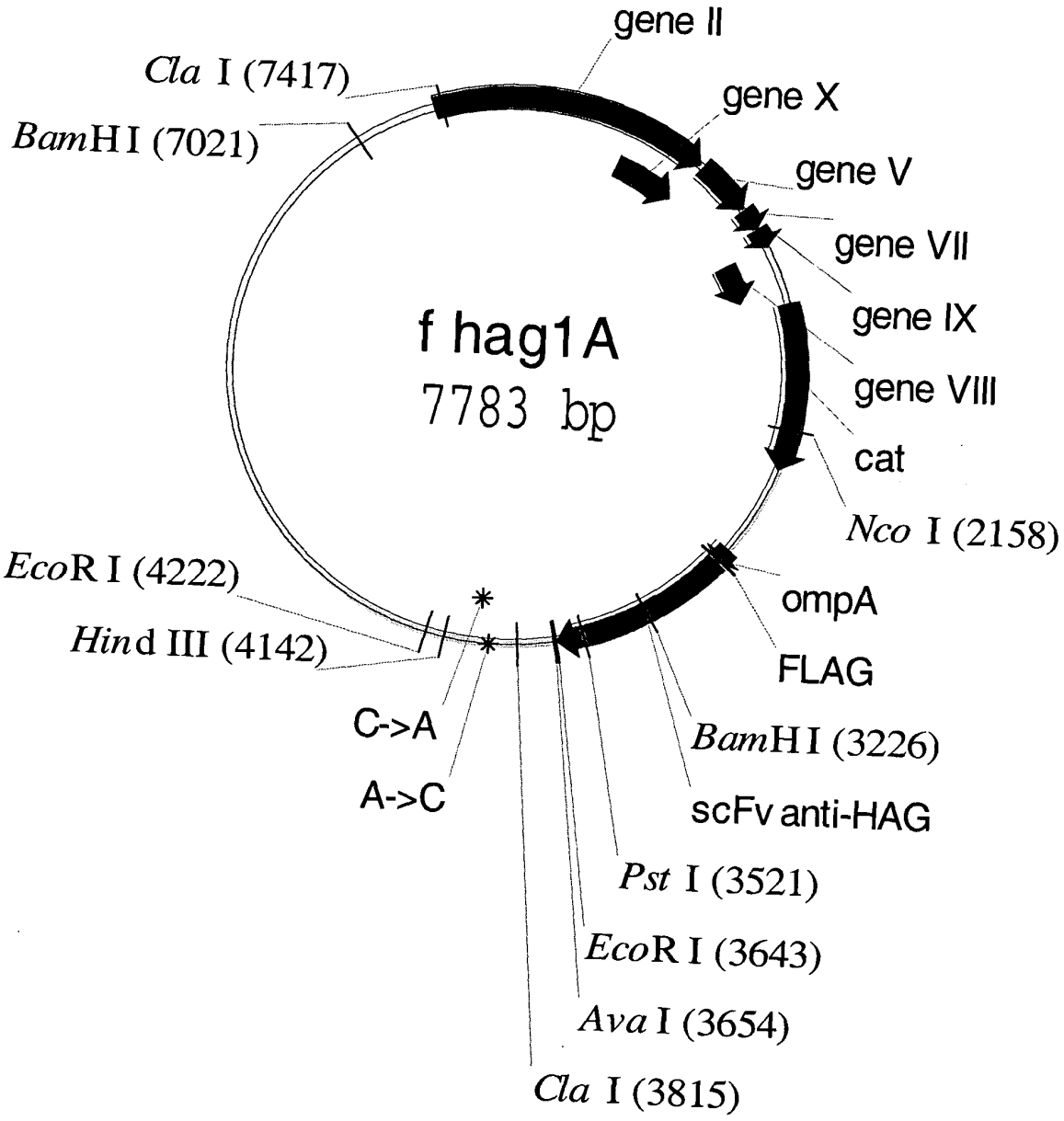


Figure 2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Cla I (7417)
gene X
BamHI (7021)
gene V
gene VII
f hag1A
7783 bp
gene IX
gene VIII
cat
Nco I (2158)
EcoR I (4222)
ompA
Hind III (4142)
FLAG
C->A
BamHI (3226)
A->C
scFv anti-HAG
Pst I (3521)
EcoR I (3643)
Ava I (3654)
Cla I (3815)

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     TACCAGTTTG ATTTAGATGA GCAAGCGTCT TAACCCTTAG TTGACAATGT

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751  CCGTTAGTTC GTTTTATTAA CGTAGATTTT TCCTCCCAAC GTCCTGACTG
     GGCAATCAAG CAAAATAATT GCATCTAAAA AGGAGGGTTG CAGGACTGAC

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      TTCATTGTAC CTCGTCCAGC GCCTAAAGCT GTGTTAAATA GTCCGCTACT

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                                                  HindIII
                                                  ~~~~~~
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6701 GTCAGACTCT TTTGCTCGGT GGCCTCACTG ATTACAAAAA CACTTCTCAA
CAGTCTGAGA AAACGAGCCA CCGGAGTGAC TAATGTTTTT GTGAAGAGTT

6751 GATTCTGGTG TGCCGTTCCT GTCTAAAATC CCTTTAATCG GCCTCCTGTT
CTAAGACCAC ACGGCAAGGA CAGATTTTAG GGAAATTAGC CGGAGGACAA

6801 TAGCTCCCGT TCTGATTCTA ACGAGGAAAG CACGTTGTAC GTGCTCGTCA
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6951 CTCCTTTCGC TTTCTTCCCT TCCTTTCTCG CCACGTTCTC CGGCTTTCCC
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7001  CGTCAAGCTC TAAATCGGGG GATCCCTTTA GGGTTCCGAT TTAGTGCTTT
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7051  ACGGCACCTC GACCTCCAAA AACTTGATTT GGGTGATGGT TCACGTAGTG
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7201  CTCGGCCTAT TCTTTTGATT TATAAGGATT TTTGTCATTT TCTGCTTACT
      GAGCCGGATA AGAAAACTAA ATATTCCTAA AAACAGTAAA AGACGAATGA

7251  GGTTAAAAAA TAAGCTGATT TAACAAATAT TTAACGCGAA ATTTAACAAA
      CCAATTTTTT ATTCGACTAA ATTGTTTATA AATTGCGCTT TAAATTGTTT

7301  ACATTAACGT TTACAATTTA AATATTTGCT TATACAATCA TCCTGTTTTT
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7351  GGGGCTTTTC TGATTATCAA CCGGGGTACA TATGATTGAC ATGCTAGTTT
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7451  GACCTGATAG CCTTTGTAGA CCTCTCAAAA ATAGCTACCC TCTCCGGCAT
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7501  GAATTTATCA GCTAGAACGG TTGAATATCA TATTGACGGT GATTTGACTG
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7551  TCTCCGGCCT TTCTCACCCG TTTGAATCTT TGCCTACTCA TTACTCCGGC
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7651  AATTAAGGCT TCACCAGCAA AAGTATTACA GGGTCATAAT GTTTTTGGTA
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7701  CAACCGATTT AGCTTTATGC TCTGAGGCTT TATTGCTTAA TTTTGCTAAC
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7751  TCTCTGCCTT GCTTGTACGA TTTATTGGAT GTT
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Figure 2K

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7401  TACGATTACC GTTCATCGAT TCTCTTGTTT GCTCCAGACT TTCAGGTAAT
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7451  GACCTGATAG CCTTTGTAGA CCTCTCAAAA ATAGCTACCC TCTCCGGCAT
      CTGGACTATC GGAAACATCT GGAGAGTTTT TATCGATGGG AGAGGCCGTA

7501  GAATTTATCA GCTAGAACGG TTGAATATCA TATTGACGGT GATTTGACTG
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7551  TCTCCGGCCT TTCTCACCCG TTTGAATCTT TGCCTACTCA TTACTCCGGC
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7601  ATTGCATTTA AAATATATGA GGGTTCTAAA AATTTTTATC CCTGCGTTGA
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7701  CAACCGATTT AGCTTTATGC TCTGAGGCTT TATTGCTTAA TTTTGCTAAC
      GTTGGCTAAA TCGAAATACG AGACTCCGAA ATAACGAATT AAAACGATTG

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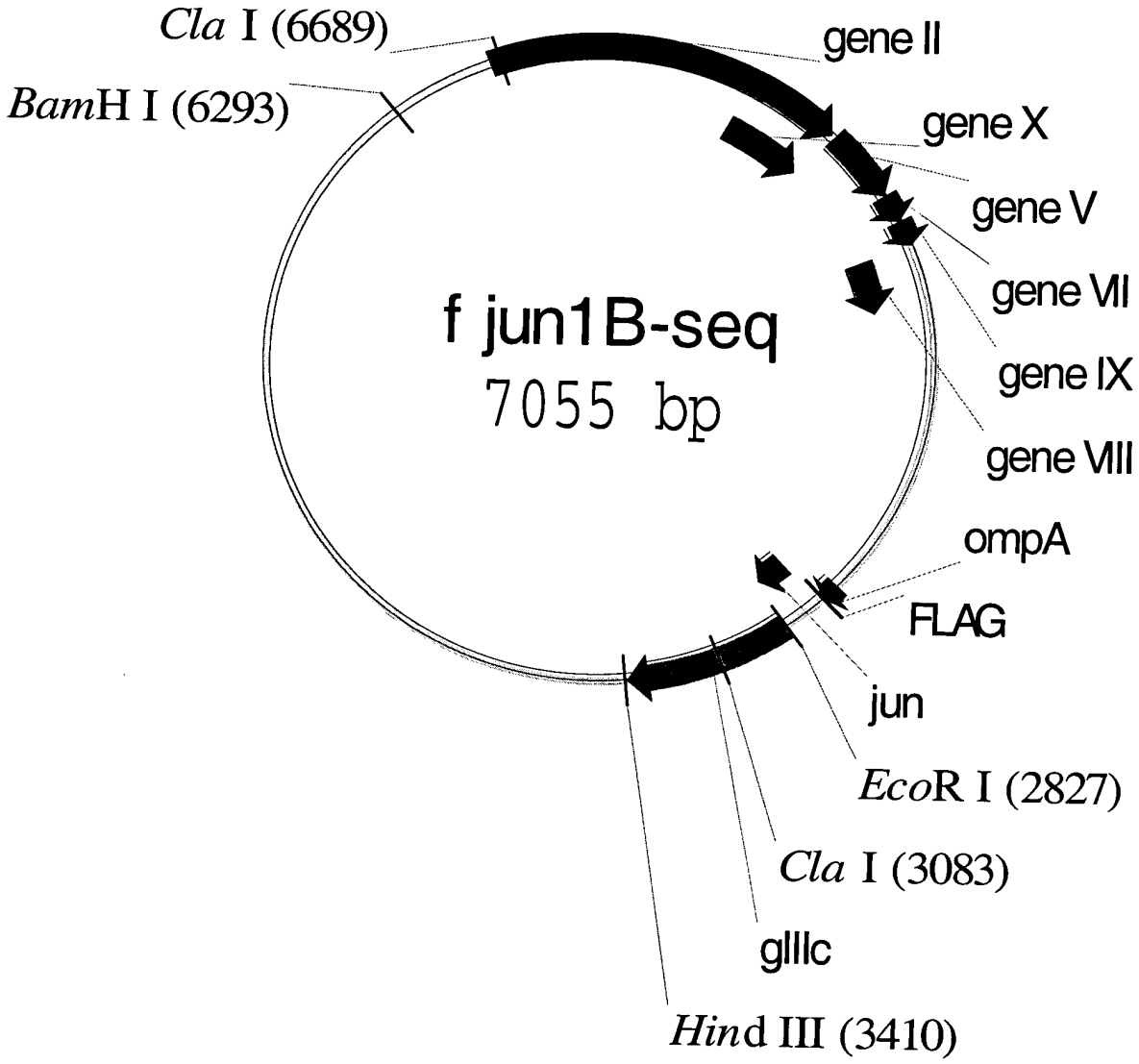
Figure 3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BamH I (6293)
gene II
gene X
gene V
gene VII
gene IX
gene VIII
ompA
FLAG
jun
EcoR I (2827)
Cla I (3083)
gIIIc
Hind III (3410)
f jun1B-seq
7055 bp

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      TTGCGATGAT GGTAATCATC TTAACTACGG TGGAAAAGTC GAGCGCGGGG

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      TACCAGTTTG ATTTAGATGA GCAAGCGTCT TAACCCTTAG TTGACAATGT

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      ACCTTACTTT GAAGGTCTGT GGCATGAAAT CAACGTATAA ATTTTGTACA

 201  TGAACTACAG CACCAGATTC AGCAATTAAG CTCTAAGCCA TCCGCAAAAA
      ACTTGATGTC GTGGTCTAAG TCGTTAATTC GAGATTCGGT AGGCGTTTTT

 251  TGACCTCTTA TCAAAAGGAG CAATTAAAGG TACTGTCTAA TCCTGACCTG
      ACTGGAGAAT AGTTTTCCTC GTTAATTTCC ATGACAGATT AGGACTGGAC

 301  TTGGAATTTG CTTCCGGTCT GGTTCGCTTT GAGGCTCGAA TTGAAACGCG
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      TATAAACTTC AGAAAGCCCG AAGGAGAATT AGAAAAACTA CGTTAAGCGA

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      AACGAAGACT GATATTATCT GTCCCATTTC TGGACTAAAA ACTAAATACC

 451  TCATTCTCGT TTTCTGAACT GTTTAAAGCA TTTGAGGGGG ATTCAATGAA
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 501  TATTTATGAC GATTCCGCAG TATTGGACGC TATCCAGTCT AAACATTTTA
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 651  CATGCCTCGT AATTCCTTTT GGCGTTATGT ATCTGCATTA GTTGAGTGTG
      GTACGGAGCA TTAAGGAAAA CCGCAATACA TAGACGTAAT CAACTCACAC

 701  GTATTCCTAA ATCTCAATTG ATGAATCTTT CCACCTGTAA TAATGTTGTT
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 801  GTATAATGAG CCAGTTCTTA AAATCGCATA AGGTAATTCA AAATGATTAA
      CATATTACTC GGTCAAGAAT TTTAGCGTAT TCCATTAAGT TTTACTAATT

 851  AGTTGAAATT AAACCGTCTC AAGCGCAATT TACTACCCGT TCTGGTGTTT
      TCAACTTTAA TTTGGCAGAG TTCGCGTTAA ATGATGGGCA AGACCACAAA
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      GAGCAGTCCC GTTCGGAATA AGTGACTTAC TCGTCGAAAC AATGCAACTA

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1001  GCCAGCGTAT GCGCCTGGTC TGTACACCGT GCATCTGTCC TCGTTCAAAG
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1101  AAGTAACATG GAGCAGGTCG CGGATTTCGA CACAATTTAT CAGGCGATGA
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1151  TACAAATCTC CGTTGTACTT TGTTTCGCGC TTGGTATAAT CGCTGGGGGT
      ATGTTTAGAG GCAACATGAA ACAAAGCGCG AACCATATTA GCGACCCCCA

1201  CAAAGATGAG TGTTTTAGTG TATTCTTTCG CCTCTTTCGT TTTAGGTTGG
      GTTTCTACTC ACAAAATCAC ATAAGAAAGC GGAGAAAGCA AAATCCAACC

1251  TGCCTTCGTA GTGGCATTAC GTATTTTACC CGTTTAATGG AAACTTCCTC
      ACGGAAGCAT CACCGTAATG CATAAAATGG GCAAATTACC TTTGAAGGAG

1301  ATGCGTAAGT CTTTAGTCCT CAAAGCCTCC GTAGCCGTTG CTACCCTCGT
      TACGCATTCA GAAATCAGGA GTTTCGGAGG CATCGGCAAC GATGGGAGCA

1351  TCCGATGCTG TCTTTCGCTG CTGAGGGTGA CGATCCCGCA AAAGCGGCCT
      AGGCTACGAC AGAAAGCGAC GACTCCCACT GCTAGGGCGT TTTCGCCGGA

1401  TTGACTCCCT GCAAGCCTCA GCGACCGAAT ATATCGGTTA TGCGTGGGCG
      AACTGAGGGA CGTTCGGAGT CGCTGGCTTA TATAGCCAAT ACGCACCCGC

1451  ATGGTTGTTG TCATTGTCGG CGCAACTATC GGTATCAAGC TGTTTAAGAA
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1551  NNNGAGGTTC CAACTTTCAC CATAATGAAA TAAGATCACT ACCGGGCGTA
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1601  TTTTTTGAGT TATCGAGATT TTCAGGAGCT AAGGAAGCTA AAATGGAGAA
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1651  AAAAATCACT GGATATACCA CCGTTGATAT ATCCCAATGG CATCGTAAAG
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1701  AACATTTTGA GGCATTTCAG TCAGTTGCTC AATGTACCTA TAACCAGACC
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1901  AGTGTTCACC CTTGTTACAC CGTTTTCCAT GAGCAAACTG AAACGTTTTC
      TCACAAGTGG GAACAATGTG GCAAAAGGTA CTCGTTTGAC TTTGCAAAAG

1951  ATCGCTCTGG AGTGAATACC ACGACGATTT CCGGCAGTTT CTACACATAT
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2001  ATTCGCAAGA TGTGGCGTGT TACGGTGAAA ACCTGGCCTA TTTCCCTAAA
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2051  GGGTTTATTG AGAATATGTT TTTCGTCTCA GCCAATCCCT GGGTGAGTTT
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2301  AATTTTTTTA AGGCAGTTAT TGGTGCCCTT AAACGCCTGG TGCTAGCCTG
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2751  CTGGCGTCCA CGGCCAACAT GCTCAGGGAA CAGGTGGCAC AGCTTAAACA
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                                    EcoRI
                                    ~~~~~~~
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3001  CCGAAAATGC CGATGAAAAC GCGCTACAGT CTGACGCTAA AGGCAAACTT
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                                          ClaI
                                          ~~~~~~
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3201  AATAATTTCC GTCAATATTT ACCTTCCCTC CCTCAATCGG TTGAATGTCG
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4151  AAAGACAGCC GATTATTGAT TGGTTTCTTC ATGCTCGTAA ATTGGGATGG
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4601  GCGTTCTTTG TCTTGCGATA GGATTTGCAT CAGCATTTAC ATATAGTTAT
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4751  GCTATGTTTT CAAGGATTCT AAGGGAAAAT TAATTAATAG CGACGATTTA
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5151  ACCCAAATAG TCAGGATTAT ATTGATGAAT TGCCATCATC TGATATTCAG
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5201  GAATATGATG ATAATTCCGC TCCTTCTGGT GGTTTCTTTG TTCCGCAAAA
      CTTATACTAC TATTAAGGCG AGGAAGACCA CCAAAGAAAC AAGGCGTTTT

5251  TGATAATGTT ACTCAAACAT TTAAAATTAA TAACGTTCGC GCAAAGGATT
      ACTATTACAA TGAGTTTGTA AATTTTAATT ATTGCAAGCG CGTTTCCTAA
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5301  TAATAAGGGT TGTAGAATTG TTTGTTAAAT CTAATACATC TAAATCCTCA
      ATTATTCCCA ACATCTTAAC AAACAATTTA GATTATGTAG ATTTAGGAGT

5351  AATGTATTAT CTGTTGATGG TTCTAACTTA TTAGTAGTTA GCGCCCCTAA
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5401  AGATATTTTA GATAACCTTC CGCAATTTCT TTCTACTGTT GATTTGCCAA
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5451  CTGACCAGAT ATTGATTGAA GGATTAATTT TCGAGGTTCA GCAAGGTGAT
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5501  GCTTTAGATT TTTCCTTTGC TGCTGGCTCT CAGCGCGGCA CTGTTGCTGG
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      ACCACAATTA TGACTGGCAG ATTGGAGACA AAATAGAAGA CGCCCACCAA

5601  CGTTCGGTAT TTTTAACGGC GATGTTTTAG GGCTATCAGT TCGCGCATTA
      GCAAGCCATA AAAATTGCCG CTACAAAATC CCGATAGTCA AGCGCGTAAT

5651  AAGACTAATA GCCATTCAAA AATATTGTCT GTGCCTCGTA TTCTTACGCT
      TTCTGATTAT CGGTAAGTTT TTATAACAGA CACGGAGCAT AAGAATGCGA

5701  TTCAGGTCAG AAGGGTTCTA TTTCTGTTGG CCAGAATGTC CCTTTTATTA
      AAGTCCAGTC TTCCCAAGAT AAAGACAACC GGTCTTACAG GGAAAATAAT

5751  CTGGTCGTGT AACTGGTGAA TCTGCCAATG TAAATAATCC ATTTCAGACG
      GACCAGCACA TTGACCACTT AGACGGTTAC ATTTATTAGG TAAAGTCTGC

5801  GTTGAGCGTC AAAATGTTGG TATTTCTATG AGTGTTTTTC CCGTTGCAAT
      CAACTCGCAG TTTTACAACC ATAAAGATAC TCACAAAAAG GGCAACGTTA

5851  GGCTGGCGGT AATATTGTTT TAGATATAAC CAGTAAGGCC GATAGTTTGA
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5901  GTTCTTCTAC TCAGGCAAGT GATGTTATTA CTAATCAAAG AAGTATTGCG
      CAAGAAGATG AGTCCGTTCA CTACAATAAT GATTAGTTTC TTCATAACGC

5951  ACAACGGTTA ATTTGCGTGA TGGTCAGACT CTTTTGCTCG GTGGCCTCAC
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6001  TGATTACAAA AACACTTCTC AAGATTCTGG TGTGCCGTTC CTGTCTAAAA
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6051  TCCCTTTAAT CGGCCTCCTG TTTAGCTCCC GTTCTGATTC TAACGAGGAA
      AGGGAAATTA GCCGGAGGAC AAATCGAGGG CAAGACTAAG ATTGCTCCTT

6101  AGCACGTTGT ACGTGCTCGT CAAAGCAACC ATAGTACGCG CCCTGTAGCG
      TCGTGCAACA TGCACGAGCA GTTTCGTTGG TATCATGCGC GGGACATCGC

6151  GCGCATTAAG CGCGGCGGGT GTGGTGGTTA CGCGCAGCGT GACCGCTACA
      CGCGTAATTC GCGCCGCCCA CACCACCAAT GCGCGTCGCA CTGGCGATGT
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6201  CTTGCCAGCG CCCTAGCGCC CGCTCCTTTC GCTTTCTTCC CTTCCTTTCT
      GAACGGTCGC GGGATCGCGG GCGAGGAAAG CGAAAGAAGG GAAGGAAAGA

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6251  CGCCACGTTC TCCGGCTTTC CCCGTCAAGC TCTAAATCGG GGGATCCCTT
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6301  TAGGGTTCCG ATTTAGTGCT TTACGGCACC TCGACCTCCA AAAACTTGAT
      ATCCCAAGGC TAAATCACGA AATGCCGTGG AGCTGGAGGT TTTTGAACTA

6351  TTGGGTGATG GTTCACGTAG TGGGCCATCG CCCTGATAGA CGGTTTTTCG
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6401  CCCTTTGACG TTGGAGTCCA CGTTCTTTAA TAGTGGACTC TTGTTCCAAA
      GGGAAACTGC AACCTCAGGT GCAAGAAATT ATCACCTGAG AACAAGGTTT

6451  CTGGAACAAC ACTCACAACT AACTCGGCCT ATTCTTTTGA TTTATAAGGA
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6501  TTTTTGTCAT TTTCTGCTTA CTGGTTAAAA AATAAGCTGA TTTAACAAAT
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6551  ATTTAACGCG AAATTTAACA AAACATTAAC GTTTACAATT TAAATATTTG
      TAAATTGCGC TTTAAATTGT TTTGTAATTG CAAATGTTAA ATTTATAAAC

6601  CTTATACAAT CATCCTGTTT TTGGGGCTTT TCTGATTATC AACCGGGGTA
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                                                ClaI
                                                ~~~~~~~
6651  CATATGATTG ACATGCTAGT TTTACGATTA CCGTTCATCG ATTCTCTTGT
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6701  TTGCTCCAGA CTTTCAGGTA ATGACCTGAT AGCCTTTGTA GACCTCTCAA
      AACGAGGTCT GAAAGTCCAT TACTGGACTA TCGGAAACAT CTGGAGAGTT

6751  AAATAGCTAC CCTCTCCGGC ATGAATTTAT CAGCTAGAAC GGTTGAATAT
      TTTATCGATG GGAGAGGCCG TACTTAAATA GTCGATCTTG CCAACTTATA

6801  CATATTGACG GTGATTTGAC TGTCTCCGGC CTTTCTCACC CGTTTGAATC
      GTATAACTGC CACTAAACTG ACAGAGGCCG GAAAGAGTGG GCAAACTTAG

6851  TTTGCCTACT CATTACTCCG GCATTGCATT TAAAATATAT GAGGGTTCTA
      AAACGGATGA GTAATGAGGC CGTAACGTAA ATTTTATATA CTCCCAAGAT

6901  AAAATTTTTA TCCCTGCGTT GAAATTAAGG CTTCACCAGC AAAAGTATTA
      TTTTAAAAAT AGGGACGCAA CTTTAATTCC GAAGTGGTCG TTTTCATAAT

6951  CAGGGTCATA ATGTTTTTGG TACAACCGAT TTAGCTTTAT GCTCTGAGGC
      GTCCCAGTAT TACAAAAACC ATGTTGGCTA AATCGAAATA CGAGACTCCG

7001  TTTATTGCTT AATTTTGCTA ACTCTCTGCC TTGCTTGTAC GATTTATTGG
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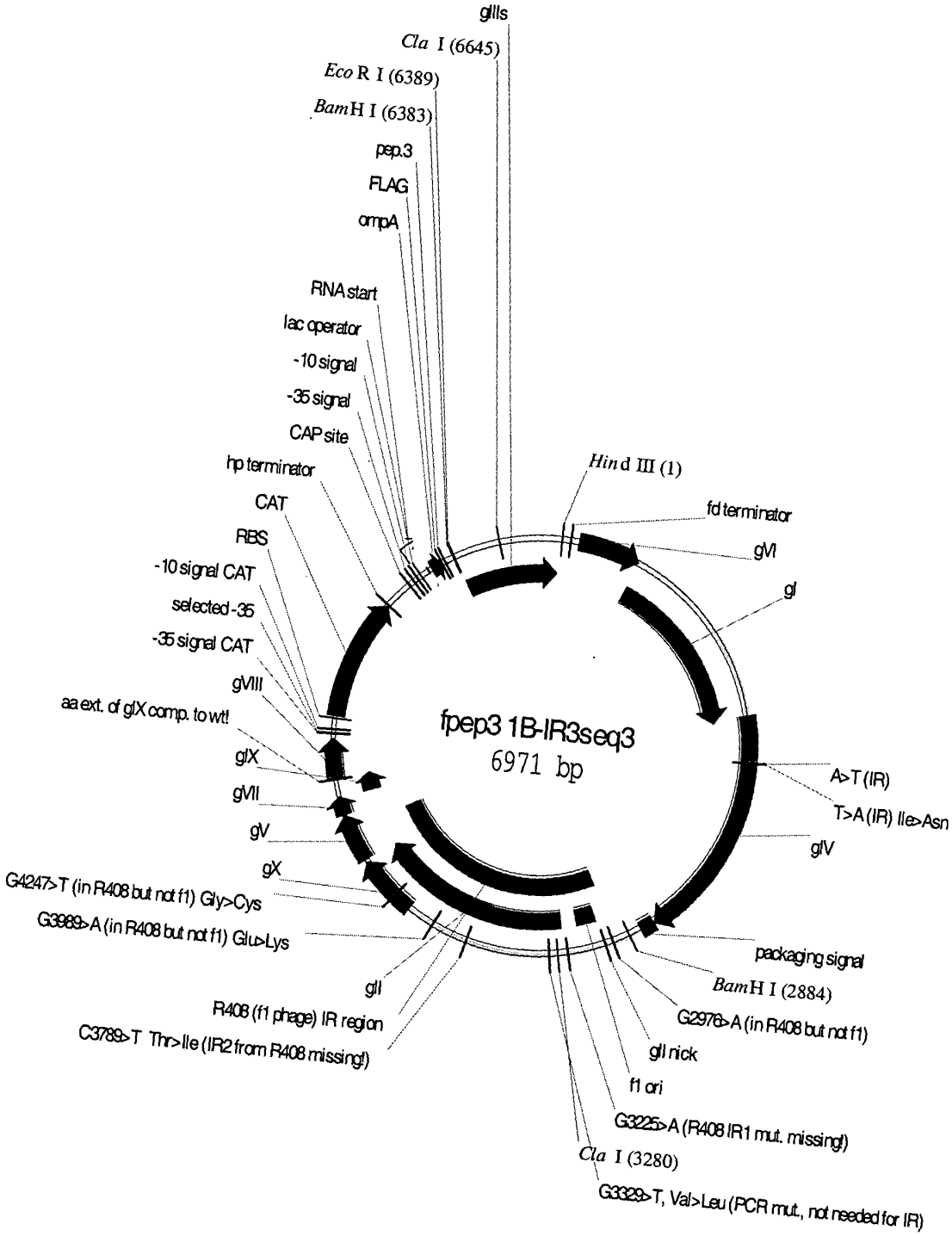
AAATAACGAA TTAAAACGAT TGAGAGACGG AACGAACATG CTAAATAACC

7051 ATGTT
TACAA

Figure 4


gIIs
Cla I (6645)
Eco R I (6389)
BamH I (6383)
psp.3
FLAG
ompA
RNA start
lac operator
-10 signal
-35 signal
CAP site
hp terminator
CAT
RBS
-10 signal CAT
selected -35
-35 signal CAT
gVIII
aa ext. of gIX comp. to wt!
gIX
gVII
gV
gX
G4247>T (in R408 but not f1) Gly>Cys
G3989>A (in R408 but not f1) Glu>Lys
gII
R408 (f1 phage) IR region
C3789>T Thr>Ile (IR2 from R408 missing!)
Hind III (1)
fd terminator
gVI
gI
fpep3 1B-IR3seq3
6971 bp
A>T (IR)
T>A (IR) Ile>Asn
gIV
packaging signal
BamH I (2884)
G2976>A (in R408 but not f1)
gII nick
f1 ori
G3225>A (R408 IR1 mut. missing!)
Cla I (3280)
G3329>T, Val>Leu (PCR mut., not needed for IR)

HindIII
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   1  AGCTTCGAGA AATTCACCTC GAAAGCAAGC TGATAAACCG ATACAATTAA
      TCGAAGCTCT TTAAGTGGAG CTTTCGTTCG ACTATTTGGC TATGTTAATT

  51  AGGCTCCTTT TGGAGCCTTT TTTTTTGGAG AATTAATTCA ATCATGCCAG
      TCCGAGGAAA ACCTCGGAAA AAAAAACCTC TTAATTAAGT TAGTACGGTC

 101  TTCTTTTGGG TATTCCGTTA TTATTGCGTT TCCTCGGTTT CCTTCTGGTA
      AAGAAAACCC ATAAGGCAAT AATAACGCAA AGGAGCCAAA GGAAGACCAT

 151  ACTTTGTTCG GCTATCTGCT TACTTTCCTT AAAAAGGGCT TCGGTAAGAT
      TGAAACAAGC CGATAGACGA ATGAAAGGAA TTTTTCCCGA AGCCATTCTA

 201  AGCTATTGCT ATTTCATTGT TTCTTGCTCT TATTATTGGG CTTAACTCAA
      TCGATAACGA TAAAGTAACA AAGAACGAGA ATAATAACCC GAATTGAGTT

 251  TTCTTGTGGG TTATCTCTCT GATATTAGCG CACAATTACC CTCTGATTTT
      AAGAACACCC AATAGAGAGA CTATAATCGC GTGTTAATGG GAGACTAAAA

 301  GTTCAGGGCG TTCAGTTAAT TCTCCCGTCT AATGCGCTTC CCTGTTTTTA
      CAAGTCCCGC AAGTCAATTA AGAGGGCAGA TTACGCGAAG GGACAAAAAT

 351  TGTTATTCTC TCTGTAAAGG CTGCTATTTT CATTTTTGAC GTTAAACAAA
      ACAATAAGAG AGACATTTCC GACGATAAAA GTAAAAACTG CAATTTGTTT

 401  AAATCGTTTC TTATTTGGAT TGGGATAAAT AAATATGGCT GTTTATTTTG
      TTTAGCAAAG AATAAACCTA ACCCTATTTA TTTATACCGA CAAATAAAAC

 451  TAACTGGCAA ATTAGGCTCT GGAAAGACGC TCGTTAGCGT TGGTAAGATT
      ATTGACCGTT TAATCCGAGA CCTTTCTGCG AGCAATCGCA ACCATTCTAA

 501  CAGGATAAAA TTGTAGCTGG GTGCAAAATA GCAACTAATC TTGATTTAAG
      GTCCTATTTT AACATCGACC CACGTTTTAT CGTTGATTAG AACTAAATTC

 551  GCTTCAAAAC CTCCCGCAAG TCGGGAGGTT CGCTAAAACG CCTCGCGTTC
      CGAAGTTTTG GAGGGCGTTC AGCCCTCCAA GCGATTTTGC GGAGCGCAAG

 601  TTAGAATACC GGATAAGCCT TCTATTTCTG ATTTGCTTGC TATTGGTCGT
      AATCTTATGG CCTATTCGGA AGATAAAGAC TAAACGAACG ATAACCAGCA

 651  GGTAATGATT CCTACGACGA AAATAAAAAC GGTTTGCTTG TTCTTGATGA
      CCATTACTAA GGATGCTGCT TTTATTTTTG CCAAACGAAC AAGAACTACT

 701  ATGCGGTACT TGGTTTAATA CCCGTTCATG GAATGACAAG GAAAGACAGC
      TACGCCATGA ACCAAATTAT GGGCAAGTAC CTTACTGTTC CTTTCTGTCG

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      GCTAATAACT AACCAAAGAA GTACGAGCAT TTAACCCTAC CCTATAATAA


 801  TTTCTTGTTC AGGATTTATC TATTGTTGAT AAACAGGCGC GTTCTGCATT
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 851  AGCTGAACAC GTTGTTTATT GTCGCCGTCT GGACAGAATT ACTTTACCCT
      TCGACTTGTG CAACAAATAA CAGCGGCAGA CCTGTCTTAA TGAAATGGGA

 901  TTGTCGGCAC TTTATATTCT CTTGTTACTG GCTCAAAAAT GCCTCTGCCT
      AACAGCCGTG AAATATAAGA GAACAATGAC CGAGTTTTTA CGGAGACGGA

 951  AAATTACATG TTGGTGTTGT TAAATATGGT GATTCTCAAT TAAGCCCTAC
      TTTAATGTAC AACCACAACA ATTTATACCA CTAAGAGTTA ATTCGGGATG

1001  TGTTGAGCGT TGGCTTTATA CTGGTAAGAA TTTATATAAC GCATATGACA
      ACAACTCGCA ACCGAAATAT GACCATTCTT AAATATATTG CGTATACTGT

1051  CTAAACAGGC TTTTTCCAGT AATTATGATT CAGGTGTTTA TTCATATTTA
      GATTTGTCCG AAAAAGGTCA TTAATACTAA GTCCACAAAT AAGTATAAAT

1101  ACCCCTTATT TATCACACGG TCGGTATTTC AAACCATTAA ATTTAGGTCA
      TGGGGAATAA ATAGTGTGCC AGCCATAAAG TTTGGTAATT TAAATCCAGT

1151  GAAGATGAAA TTAACTAAAA TATATTTGAA AAAGTTTTCT CGCGTTCTTT
      CTTCTACTTT AATTGATTTT ATATAAACTT TTTCAAAAGA GCGCAAGAAA

1201  GTCTTGCGAT AGGATTTGCA TCAGCATTTA CATATAGTTA TATAACCCAA
      CAGAACGCTA TCCTAAACGT AGTCGTAAAT GTATATCAAT ATATTGGGTT

1251  CCTAAGCCGG AGGTTAAAAA GGTAGTCTCT CAGACCTATG ATTTTGATAA
      GGATTCGGCC TCCAATTTTT CCATCAGAGA GTCTGGATAC TAAAACTATT

1301  ATTCACTATT GACTCTTCTC AGCGTCTTAA TCTAAGCTAT CGCTATGTTT
      TAAGTGATAA CTGAGAAGAG TCGCAGAATT AGATTCGATA GCGATACAAA

1351  TCAAGGATTC TAAGGGAAAA TTAATTAATA GCGACGATTT ACAGAAGCAA
      AGTTCCTAAG ATTCCCTTTT AATTAATTAT CGCTGCTAAA TGTCTTCGTT

1401  GGTTATTCCA TCACATATAT TGATTTATGT ACTGTTTCAA TTAAAAAAGG
      CCAATAAGGT AGTGTATATA ACTAAATACA TGACAAAGTT AATTTTTTCC

1451  TAATTCAAAT GAAATTGTTA AATGTAATTA ATTTTGTTTT CTTGATGTTT
      ATTAAGTTTA CTTTAACAAT TTACATTAAT TAAAACAAAA GAACTACAAA

1501  GTTTCATCAT CTTCTTTTGC TCAAGTAATT GAAATGAATA ATTCGCCTCT
      CAAAGTAGTA GAAGAAAACG AGTTCATTAA CTTTACTTAT TAAGCGGAGA

1551  GCGCGATTTC GTGACTTGGT ATTCAAAGCA AACAGGTGAA TCTGTTATTG
      CGCGCTAAAG CACTGAACCA TAAGTTTCGT TTGTCCACTT AGACAATAAC

1601  TCTCACCTGA TGTTAAAGGT ACAGTGACTG TATATTCCTC TGACGTTAAG
      AGAGTGGACT ACAATTTCCA TGTCACTGAC ATATAAGGAG ACTGCAATTC

1651  CCTGAAAATT TACGCAATTT CTTTATCTCT GTTTTACGTG CTAATAATTT
      GGACTTTTAA ATGCGTTAAA GAAATAGAGA CAAAATGCAC GATTATTAAA

1701  TGATATGGTT GGCTCTAATC CTTCCATAAT TCAGAAATAT AACCCAAATA
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1851  TACTCAAACA TTTAAAATTA ATAACGTTCG CGCAAAGGAT TTAATAAGGG
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1901  TTGTAGAATT GTTTGTTAAA TCTAATACAT CTAAATCCTC AAATGTATTA
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1951  TCTGTTGATG GTTCTAACTT ATTAGTAGTT AGCGCCCCTA AAGATATTTT
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2001  AGATAACCTT CCGCAATTTC TTTCTACTGT TGATTTGCCA ACTGACCAGA
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2051  TATTGATTGA AGGATTAATT TTCGAGGTTC AGCAAGGTGA TGCTTTAGAT
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2101  TTTTCCTTTG CTGCTGGCTC TCAGCGCGGC ACTGTTGCTG GTGGTGTTAA
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2151  TACTGACCGT CTAACCTCTG TTTTATCTTC TGCGGGTGGT TCGTTCGGTA
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2201  TTTTTAACGG CGATGTTTTA GGGCTATCAG TTCGCGCATT AAAGACTAAT
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2301  GAAGGGTTCT ATTTCTGTTG GCCAGAATGT CCCTTTTATT ACTGGTCGTG
      CTTCCCAAGA TAAAGACAAC CGGTCTTACA GGGAAAATAA TGACCAGCAC

2351  TAACTGGTGA ATCTGCCAAT GTAAATAATC CATTTCAGAC AATTGAGCGT
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2401  CAAAATGTTG GTATTTCTAT GAGTGTTTTT CCCGTTGCAA TGGCTGGCGG
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2451  TAATATTGTT TTAGATATAA CCAGTAAGGC CGATAGTTTG AGTTCTTCTA
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2551  AATTTGCGTG ATGGTCAGAC TCTTTTGCTC GGTGGCCTCA CTGATTACAA
      TTAAACGCAC TACCAGTCTG AGAAAACGAG CCACCGGAGT GACTAATGTT

2601  AAACACTTCT CAAGATTCTG GTGTGCCGTT CCTGTCTAAA ATCCCTTTAA
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2751  GCGCGGCGGG TGTGGTGGTT ACGCGCAGCG TGACCGCTAC ACTTGCCAGC
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2801  GCCCTAGCGC CCGCTCCTTT CGCTTTCTTC CCTTCCTTTC TCGCCACGTT
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                                              BamHI
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3001  GTTGGAGTCC ACGTTCTTTA ATAGTGGACT CTTGTTCCAA ACTGGAACAA
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                                        ClaI
                                       ~~~~~~~
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3651  CTACTACTAT TAGTAGAATT GATGCCACCT TTTCAGCTCG CGCCCCAAAT
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3901  CTCTTATCAA AAGGAGCAAT TAAAGGTACT CTCTAATCCT GACCTGTTGG
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4151  TATGACGATT CCGCAGTATT GGACGCTATC CAGTCTAAAC ATTTTACTAT
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4501  GAAATTAAAC CATCTCAAGC GCAATTCACT ACCCGTTCTG GTGTTTCTCG
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4601  GTAATGAATA TCCGGTGCTT GTCAAGATTA CTCTTGATGA AGGTCAGCCA
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      CGGATACGCG GACCAGACAT GTGGCACGTA GACAGGAGCA AGTTTCAACC

4701  TCAGTTCGGT TCTCTTATGA TTGACCGTCT GCGCCTCGTT CCGGCTAAGT
      AGTCAAGCCA AGAGAATACT AACTGGCAGA CGCGGAGCAA GGCCGATTCA

4751  AACATGGAGC AGGTCGCGGA TTTCGACACA ATTTATCAGG CGATGATACA
      TTGTACCTCG TCCAGCGCCT AAAGCTGTGT TAAATAGTCC GCTACTATGT

4801  AATCTCCGTT GTACTTTGTT TCGCGCTTGG TATAATCGCT GGGGGTCAAA
      TTAGAGGCAA CATGAAACAA AGCGCGAACC ATATTAGCGA CCCCCAGTTT

4851  GATGAGTGTT TTAGTGTATT CTTTCGCCTC TTTCGTTTTA GGTTGGTGCC
      CTACTCACAA AATCACATAA GAAAGCGGAG AAAGCAAAAT CCAACCACGG

4901  TTCGTAGTGG CATTACGTAT TTTACCCGTT TAATGGAAAC TTCCTCATGC
      AAGCATCACC GTAATGCATA AAATGGGCAA ATTACCTTTG AAGGAGTACG

4951  GTAAGTCTTT AGTCCTCAAA GCCTCCGTAG CCGTTGCTAC CCTCGTTCCG
      CATTCAGAAA TCAGGAGTTT CGGAGGCATC GGCAACGATG GGAGCAAGGC

5001  ATGCTGTCTT TCGCTGCTGA GGGTGACGAT CCCGCAAAAG CGGCCTTTGA
      TACGACAGAA AGCGACGACT CCCACTGCTA GGGCGTTTTC GCCGGAAACT

5051  CTCCCTGCAA GCCTCAGCGA CCGAATATAT CGGTTATGCG TGGGCGATGG
      GAGGGACGTT CGGAGTCGCT GGCTTATATA GCCAATACGC ACCCGCTACC

5101  TTGTTGTCAT TGTCGGCGCA ACTATCGGTA TCAAGCTGTT TAAGAAATTC
      AACAACAGTA ACAGCCGCGT TGATAGCCAT AGTTCGACAA ATTCTTTAAG

5151  ACCTCGAAAG CAAGCTGATA AAGGAGGTTT CTCGATCGAG ACGTTGGGTG
      TGGAGCTTTC GTTCGACTAT TTCCTCCAAA GAGCTAGCTC TGCAACCCAC

5201  AGGTTCCAAC TTTCACCATA ATGAAATAAG ATCACTACCG GGCGTATTTT
      TCCAAGGTTG AAAGTGGTAT TACTTTATTC TAGTGATGGC CCGCATAAAA

5251  TTGAGTTATC GAGATTTTCA GGAGCTAAGG AAGCTAAAAT GGAGAAAAAA
      AACTCAATAG CTCTAAAAGT CCTCGATTCC TTCGATTTTA CCTCTTTTTT
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5301  ATCACTGGAT ATACCACCGT TGATATATCC CAATGGCATC GTAAAGAACA
      TAGTGACCTA TATGGTGGCA ACTATATAGG GTTACCGTAG CATTTCTTGT

5351  TTTTGAGGCA TTTCAGTCAG TTGCTCAATG TACCTATAAC CAGACCGTTC
      AAAACTCCGT AAAGTCAGTC AACGAGTTAC ATGGATATTG GTCTGGCAAG

5401  AGCTGGATAT TACGGCCTTT TTAAAGACCG TAAAGAAAAA TAAGCACAAG
      TCGACCTATA ATGCCGGAAA AATTTCTGGC ATTTCTTTTT ATTCGTGTTC

5451  TTTTATCCGG CCTTTATTCA CATTCTTGCC CGCCTGATGA ATGCTCATCC
      AAAATAGGCC GGAAATAAGT GTAAGAACGG GCGGACTACT TACGAGTAGG

5501  GGAGTTCCGT ATGGCAATGA AAGACGGTGA GCTGGTGATA TGGGATAGTG
      CCTCAAGGCA TACCGTTACT TTCTGCCACT CGACCACTAT ACCCTATCAC

5551  TTCACCCTTG TTACACCGTT TTCCATGAGC AAACTGAAAC GTTTTCATCG
      AAGTGGGAAC AATGTGGCAA AAGGTACTCG TTTGACTTTG CAAAAGTAGC

5601  CTCTGGAGTG AATACCACGA CGATTTCCGG CAGTTTCTAC ACATATATTC
      GAGACCTCAC TTATGGTGCT GCTAAAGGCC GTCAAAGATG TGTATATAAG

5651  GCAAGATGTG GCGTGTTACG GTGAAAACCT GGCCTATTTC CCTAAAGGGT
      CGTTCTACAC CGCACAATGC CACTTTTGGA CCGGATAAAG GGATTTCCCA

5701  TTATTGAGAA TATGTTTTTC GTCTCAGCCA ATCCCTGGGT GAGTTTCACC
      AATAACTCTT ATACAAAAAG CAGAGTCGGT TAGGGACCCA CTCAAAGTGG

5751  AGTTTTGATT TAAACGTAGC CAATATGGAC AACTTCTTCG CCCCCGTTTT
      TCAAAACTAA ATTTGCATCG GTTATACCTG TTGAAGAAGC GGGGGCAAAA

5801  CACTATGGGC AAATATTATA CGCAAGGCGA CAAGGTGCTG ATGCCGCTGG
      GTGATACCCG TTTATAATAT GCGTTCCGCT GTTCCACGAC TACGGCGACC

5851  CGATTCAGGT TCATCATGCC GTTTGTGATG GCTTCCATGT CGGCAGAATG
      GCTAAGTCCA AGTAGTACGG CAAACACTAC CGAAGGTACA GCCGTCTTAC

5901  CTTAATGAAT TACAACAGTA CTGCGATGAG TGGCAGGGCG GGGCGTAATT
      GAATTACTTA ATGTTGTCAT GACGCTACTC ACCGTCCCGC CCCGCATTAA

5951  TTTTTAAGGC AGTTATTGGT GCCCTTAAAC GCCTGGTGCT AGCCTGAGGC
      AAAAATTCCG TCAATAACCA CGGGAATTTG CGGACCACGA TCGGACTCCG

6001  CAGTTTGCTC AGGCTCTCCC CGTGGAGGTA ATAATTGCTC GACCGATAAA
      GTCAAACGAG TCCGAGAGGG GCACCTCCAT TATTAACGAG CTGGCTATTT

6051  AGCGGCTTCC TGACAGGAGG CCGTTTTGTT TTGCAGCCCA CCTCAACGCA
      TCGCCGAAGG ACTGTCCTCC GGCAAAACAA AACGTCGGGT GGAGTTGCGT

6101  ATTAATGTGA GTTAGCTCAC TCATTAGGCA CCCCAGGCTT TACACTTTAT
      TAATTACACT CAATCGAGTG AGTAATCCGT GGGGTCCGAA ATGTGAAATA

6151  GCTTCCGGCT CGTATGTTGT GTGGAATTGT GAGCGGATAA CAATTTCACA
      CGAAGGCCGA GCATACAACA CACCTTAACA CTCGCCTATT GTTAAAGTGT
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6201  CAGGAAACAG CTATGACCAT GATTACGAAT TTCTAGATAA CGAGGGCAAA
      GTCCTTTGTC GATACTGGTA CTAATGCTTA AAGATCTATT GCTCCCGTTT

6251  AAATGAAAAA GACAGCTATC GCGATTGCAG TGGCACTGGC TGGTTTCGCT
      TTTACTTTTT CTGTCGATAG CGCTAACGTC ACCGTGACCG ACCAAAGCGA

6301  ACCGTAGCGC AGGCCGACTA CAAAGATGTC GACTGTATTG TTTATCATGC
      TGGCATCGCG TCCGGCTGAT GTTTCTACAG CTGACATAAC AAATAGTACG

                                        BamHI EcoRI
                                        ~~~~~~~~~~~~
6351  TCATTATCTT GTTGCTAAGT GTGGTGGTGG AGGATCCGAA TTCAATGCTG
      AGTAATAGAA CAACGATTCA CACCACCACC TCCTAGGCTT AAGTTACGAC

6401  GCGGCGGCTC TGGTGGTGGT TCTGGTGGCG GCTCTGAGGG TGGTGGCTCT
      CGCCGCCGAG ACCACCACCA AGACCACCGC CGAGACTCCC ACCACCGAGA

6451  GAGGGTGGCG GTTCTGAGGG TGGCGGCTCT GAGGGAGGCG GTTCCGGTGG
      CTCCCACCGC CAAGACTCCC ACCGCCGAGA CTCCCTCCGC CAAGGCCACC

6501  TGGCTCTGGT TCCGGTGATT TTGATTATGA AAAGATGGCA AACGCTAATA
      ACCGAGACCA AGGCCACTAA AACTAATACT TTTCTACCGT TTGCGATTAT

6551  AGGGGGCTAT GACCGAAAAT GCCGATGAAA ACGCGCTACA GTCTGACGCT
      TCCCCCGATA CTGGCTTTTA CGGCTACTTT TGCGCGATGT CAGACTGCGA

                                                      ClaI
                                                      ~~~~~~
6601  AAAGGCAAAC TTGATTCTGT CGCTACTGAT TACGGTGCTG CTATCGATGG
      TTTCCGTTTG AACTAAGACA GCGATGACTA ATGCCACGAC GATAGCTACC

6651  TTTCATTGGT GACGTTTCCG GCCTTGCTAA TGGTAATGGT GCTACTGGTG
      AAAGTAACCA CTGCAAAGGC CGGAACGATT ACCATTACCA CGATGACCAC

6701  ATTTTGCTGG CTCTAATTCC CAAATGGCTC AAGTCGGTGA CGGTGATAAT
      TAAAACGACC GAGATTAAGG GTTTACCGAG TTCAGCCACT GCCACTATTA

6751  TCACCTTTAA TGAATAATTT CCGTCAATAT TTACCTTCCC TCCCTCAATC
      AGTGGAAATT ACTTATTAAA GGCAGTTATA AATGGAAGGG AGGGAGTTAG

6801  GGTTGAATGT CGCCCTTTTG TCTTTGGCGC TGGTAAACCA TATGAATTTT
      CCAACTTACA GCGGGAAAAC AGAAACCGCG ACCATTTGGT ATACTTAAAA

6851  CTATTGATTG TGACAAAATA AACTTATTCC GTGGTGTCTT TGCGTTTCTT
      GATAACTAAC ACTGTTTTAT TTGAATAAGG CACCACAGAA ACGCAAAGAA

6901  TTATATGTTG CCACCTTTAT GTATGTATTT TCTACGTTTG CTAACATACT
      AATATACAAC GGTGGAAATA CATACATAAA AGATGCAAAC GATTGTATGA

                HindIII
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6951  GCGTAATAAG GAGTCTTGAT A
      CGCATTATTC CTCAGAACTA T
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Figure 5

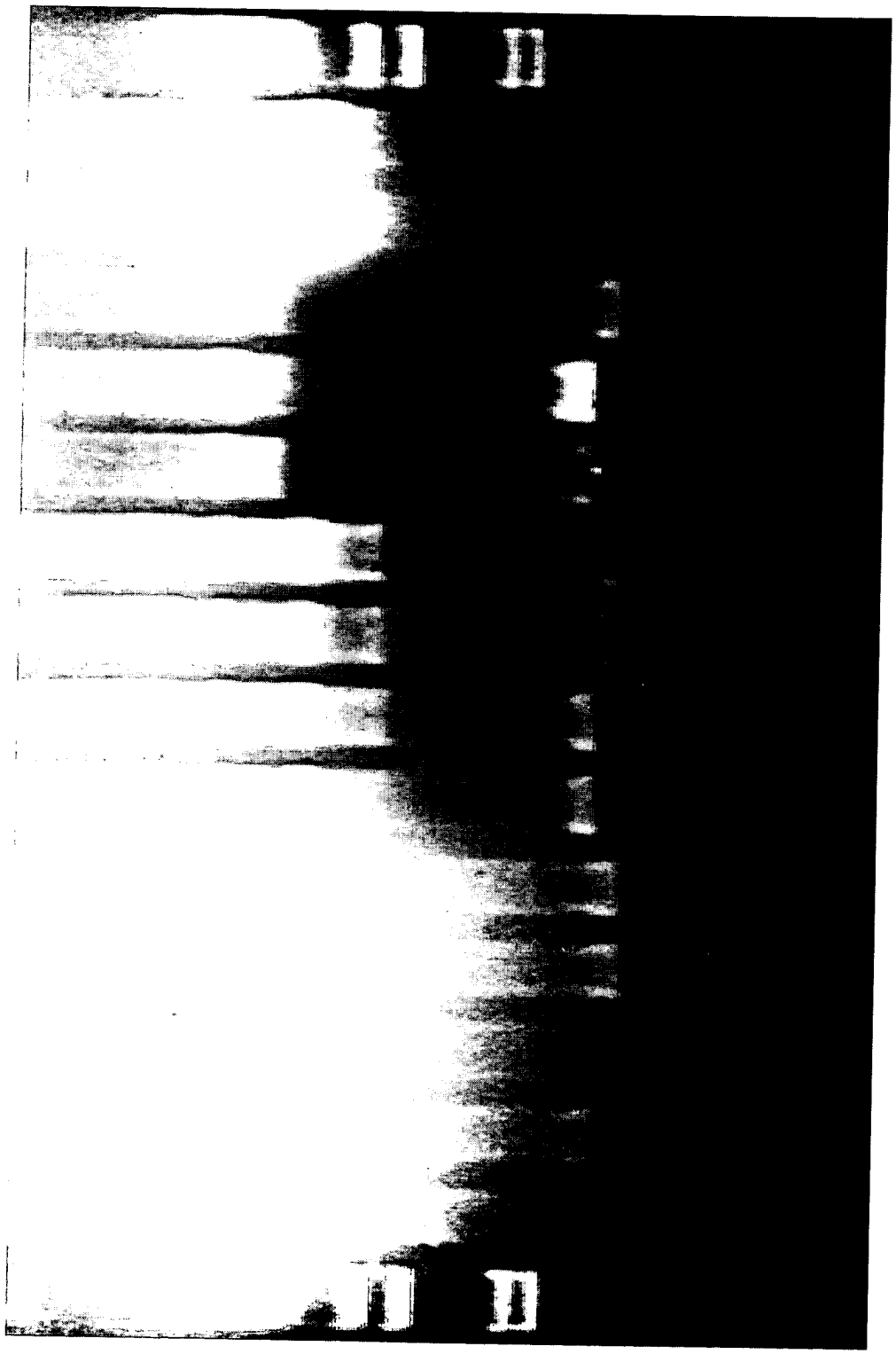


Figure 6

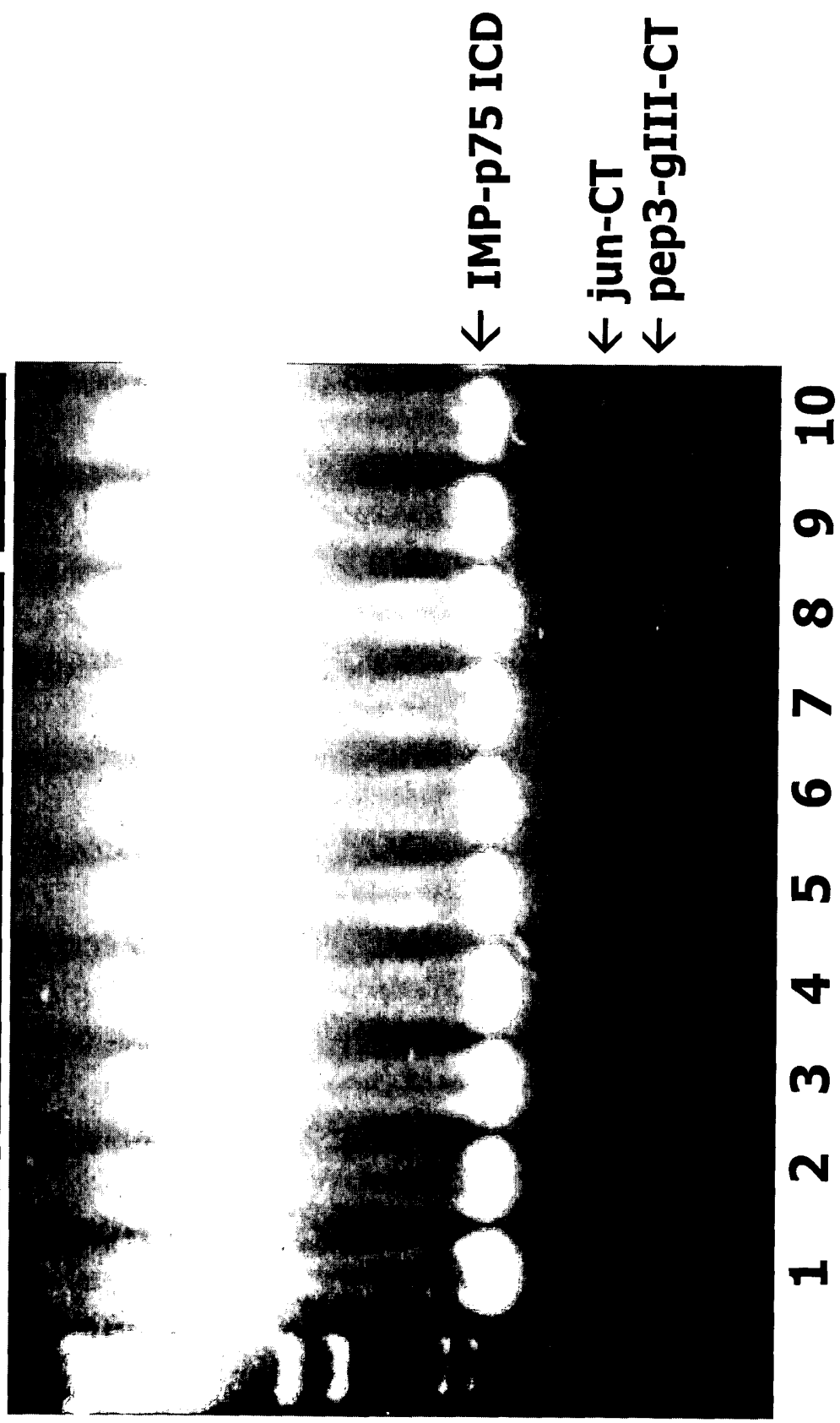

M SIP Polyphage transductants transf.
co-
← IMP-p75 ICD
← jun-CT
← pep3-gIII-CT
1 2 3 4 5 6 7 8 9 10

Figure 7

dilution factor			transductants
pep3/p75ICD		jun/p75ICD	(t.u./ml)*
1	pos. control	-	6×10^5
-	neg. control	1	0
1		10^2	1.2×10^4
1		10^3	8.6×10^2
1		10^4	1.2×10^2
1		10^5	$12^{\#}$
1		10^6	$1.2^{\#}$
1		10^7	$0.12^{\#}$

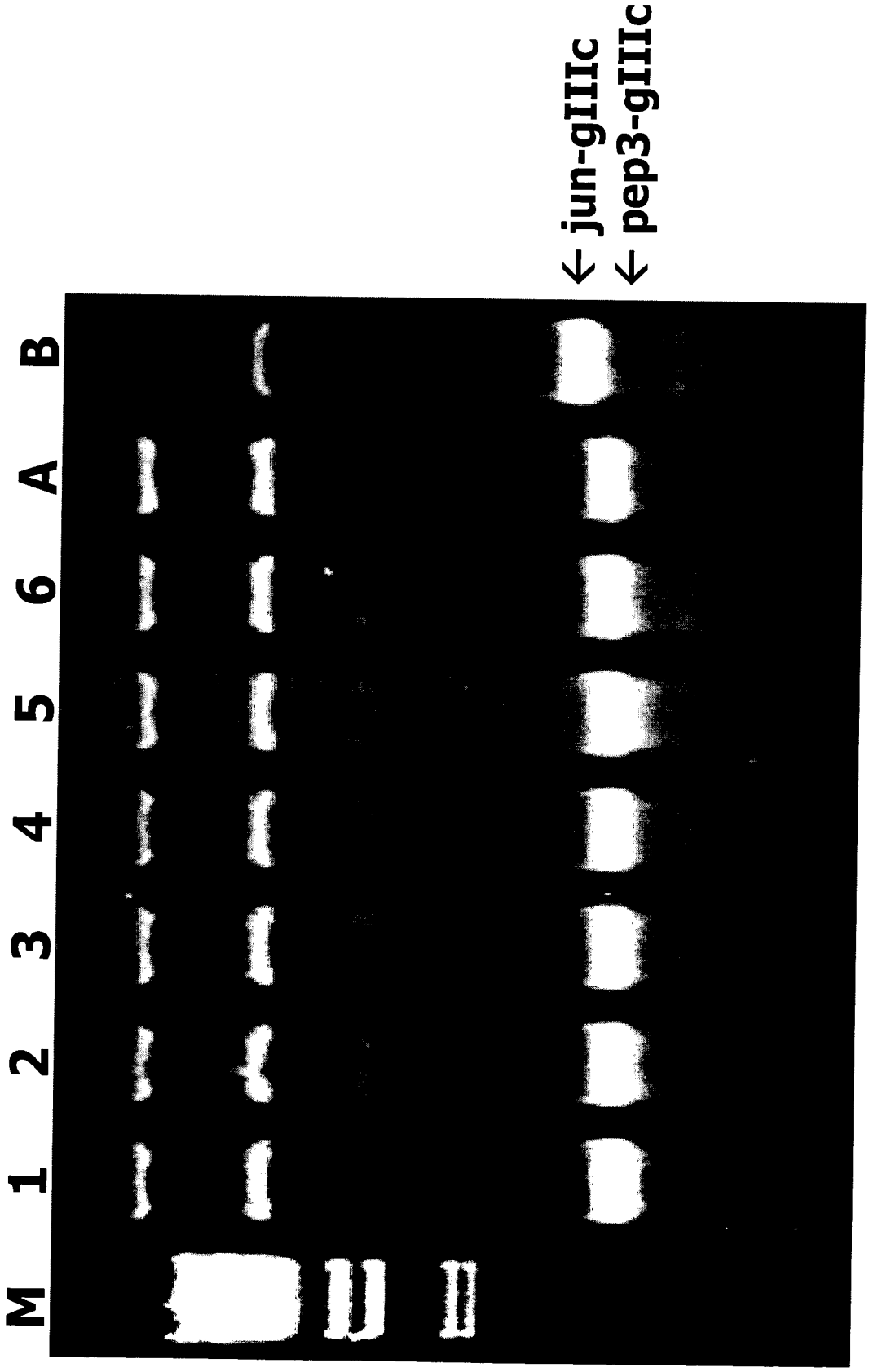
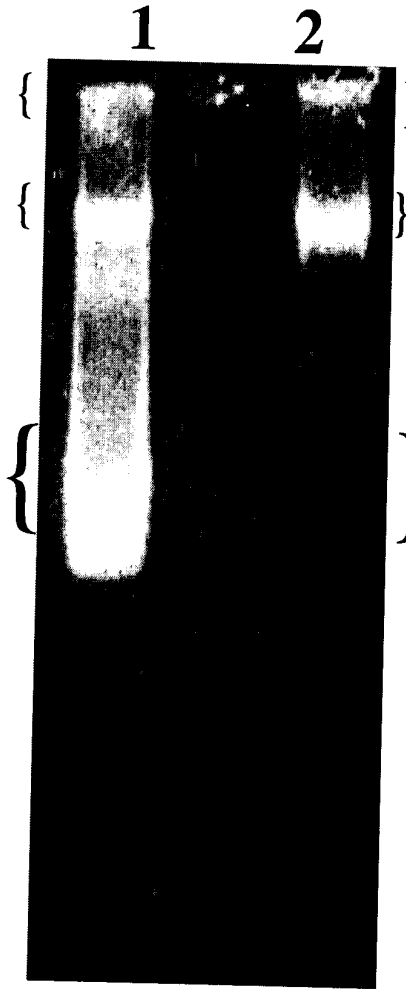


Figure 8

Figure 9

c	a		a	c	c/a
$1.8x10^2$	$1.2x10^6$	$4.4x10^2$	$1.3x10^6$	$4.2x10^5$	$6.2x10^3$
0	$2.4x10^5$	40	$2.5x10^6$	$8.0x10^5$	10^2
0	$3.7x10^7$	$2.2x10^2$	$2.8x10^5$	$0.6x10^5$	0



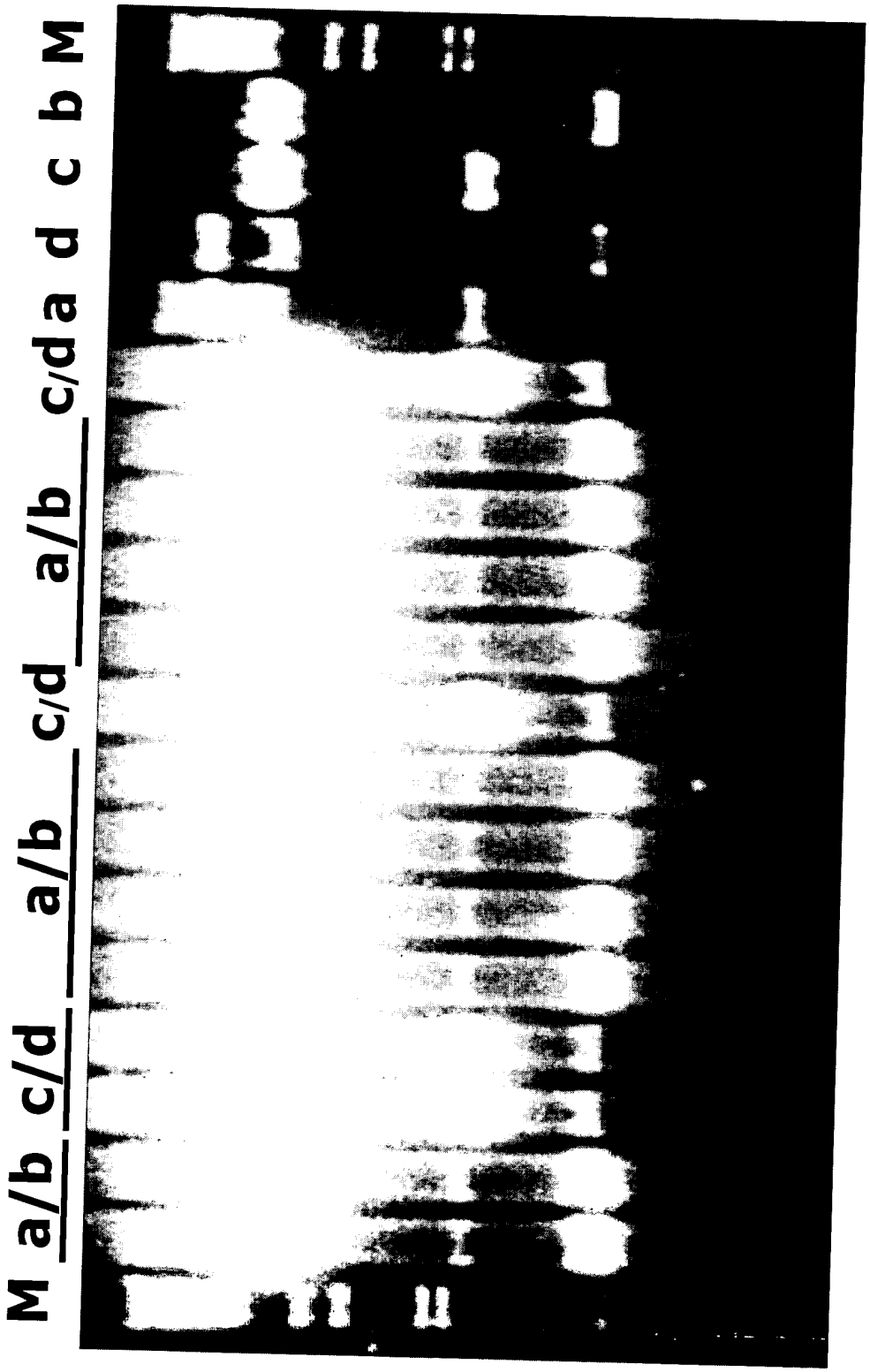


Figure 10